

MAY 17, 2016



Special points of interest:

- Overview of the EMS System, including EMS Agency network and data
- EMS Division Data-Driven Initiatives
- Data points: EMS system use, trauma impacts in the county, cardiac arrest statistics, and data-driven community initiatives

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SAN LUIS OBISPO EMERGENCY MEDICAL SERVICES

San Luis Obispo Emergency Medical Services System Report 2015

Message from the EMS Manager

I am excited to present the Emergency Medical Services (EMS) Agency Report for 2015. The goal of this report is to educate our community on our EMS system use and performance, as well as public health trends we have identified through our data collection efforts.

Beyond public use, this report is also intended for the Board of Supervisors, County Administration, local fire departments, hospitals, and all those who work together to make this system function. This report provides an over-

arching look at what you have been instrumental in creating.

The data in this report is taken from our patient care reporting system and used to inform our efforts in quality improvement and maintaining the high caliber of San Luis Obispo's pre-hospital care services.

Whether it is through tracking transportation system use, trauma related statistics, or

public health trends, not only can we bring attention to areas of improvement, but we can also highlight our effectiveness for others to model, such as in our scene response times.

We look forward to further improved information collection and reporting during 2016, as well as the opportunity to use this data to inform policy and make system enhancements.



Vince Pierucci,
EMS Division
Manager

The EMS Agency At A Glance

As a division of the Public Health Department, the San Luis Obispo County EMS Division is comprised of the EMS Agency and the Public Health Emergency Preparedness (PHEP) Program. The EMS Agency provides system guidance and oversight through pre-hospital provider and public comment driven policy development and a comprehensive quality improvement program.

The EMS Agency supports appropriate use of 911, CPR, AEDs, and First Aid through public education and engagement. They ensure prehospi-

tal personnel excellence through training, certification, accreditation, authorization and continuing education program review. The EMS Agency collaborates with partners in the PHEP program on disaster management and planning.

The EMS Division works to:

- promote growth, continuous improvement, and personal development of our staff and members of the EMS community
- explore and utilize innovative approaches to pre-hospital care



- foster a cooperative and collaborative working environment

As a public benefit agency, we are responsive and responsible to the community.

Our partners include county and city EMS response agencies, EMS transportation agencies, hospitals, and other community partners.



EMS NETWORK

San Luis Obispo Emergency Medical Services System Report 2015

Network Demographics

EMS Practitioners:

143	Accredited Paramedics
622	Certified EMTs
98	Mobile Intensive Care Nurses (MICN)
700+	Trained in High Performance CPR

Public:

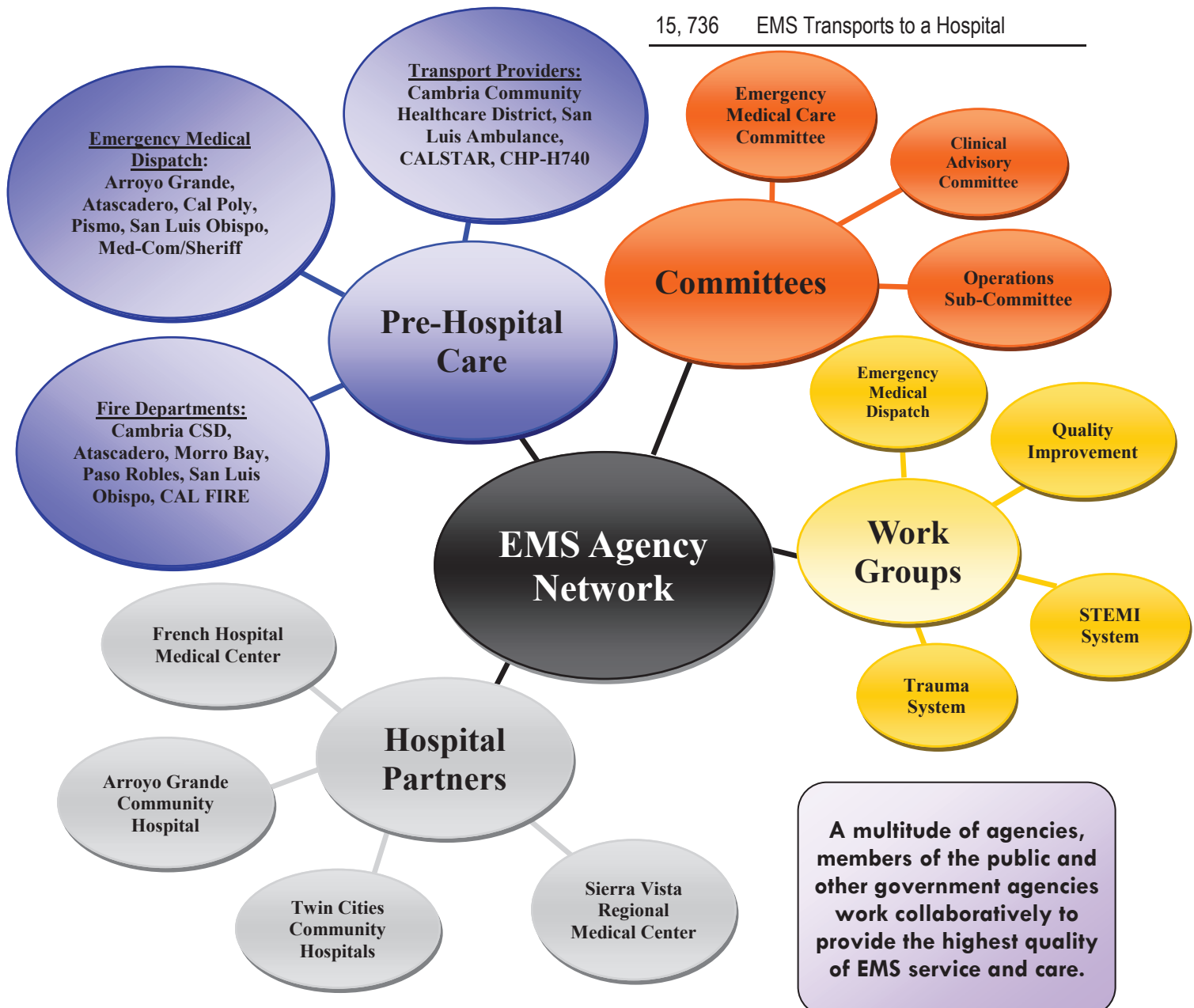
5000+	Trained in Hands-Only CPR
355	Public Access AEDs identified county-wide

Hospitals:

4	Base Station Hospitals
1	Designated Trauma Center
1	Designated STEMI/Cardiac Center
4	Joint-Commission Approved Stroke Hospitals

Transports:

2	Ambulance Transport Providers
2	EMS Air Providers
26, 221	EMS Requests
15, 736	EMS Transports to a Hospital





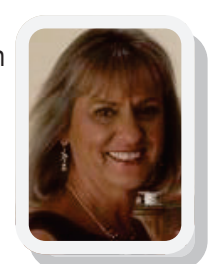
EMS AGENCY STAFF

San Luis Obispo Emergency Medical Services System Report 2015

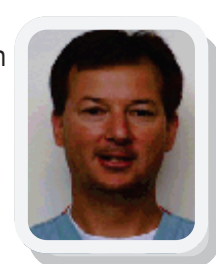
Vince Pierucci is the EMS Division Manager, and began his position with the county this past February. Vince has over 20 years of pre-hospital care experience and comes to us from the Kern County EMS Agency, where he was the Disaster Medical Health Specialist. He lives with his wife and son in Grover Beach. Vince is excited to join the SLO EMS Agency and looks forward to working with the system providers.



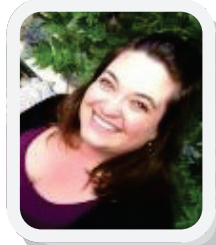
Kathy Collins, R.N. is the Specialty Care Systems Coordinator. Kathy has over 35 years experience in the field of emergency medicine, including hospital emergency department, flight nursing, and EMS administration. Her role focuses on the trauma and cardiac quality improvement programs and establishing evidence-based policies to assist in maintaining a high quality of prehospital care.



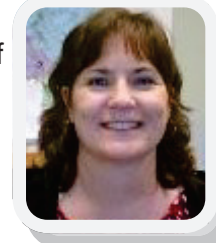
Thomas Ronay, M.D. is an emergency medicine physician and the EMS Medical Director. In addition to being involved in pre-hospital care for over 30 years, Dr. Ronay works at Twin Cities Community Hospital and Sierra Vista Regional Medical Center. Dr. Ronay provides oversight in prehospital standards and policies both on the local and State EMS levels. He lives in San Luis Obispo with his wife and two children.



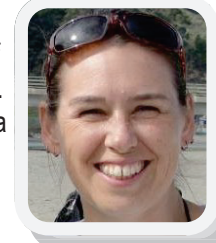
Tracy Eby came to EMS Agency with a background as an EMT of 6 years. Tracy's role covers much of the actual training on EMSA's policies for the local paramedics and EMTs, as well as extensive work in overall program management. A longtime resident of SLO, Tracy is active in the community, from teaching CPR to community outreach for homeless services.



Vicci Stone has been the EMS Agency's compliance lead since 2008. To maintain the standards of our county's pre-hospital care, she tracks over 750 paramedics and EMTs yearly for their accreditation and training schedules. Vicci lives with her husband in Atascadero, and has three daughters and currently four grandchildren.



Heather Tucker is currently the EMS Agency's Emergency Medical System Specialist. Her area of work includes quality improvement related projects. Heather also teaches EMS courses through Cuesta College. She lives in Atascadero with her spouse and two children.



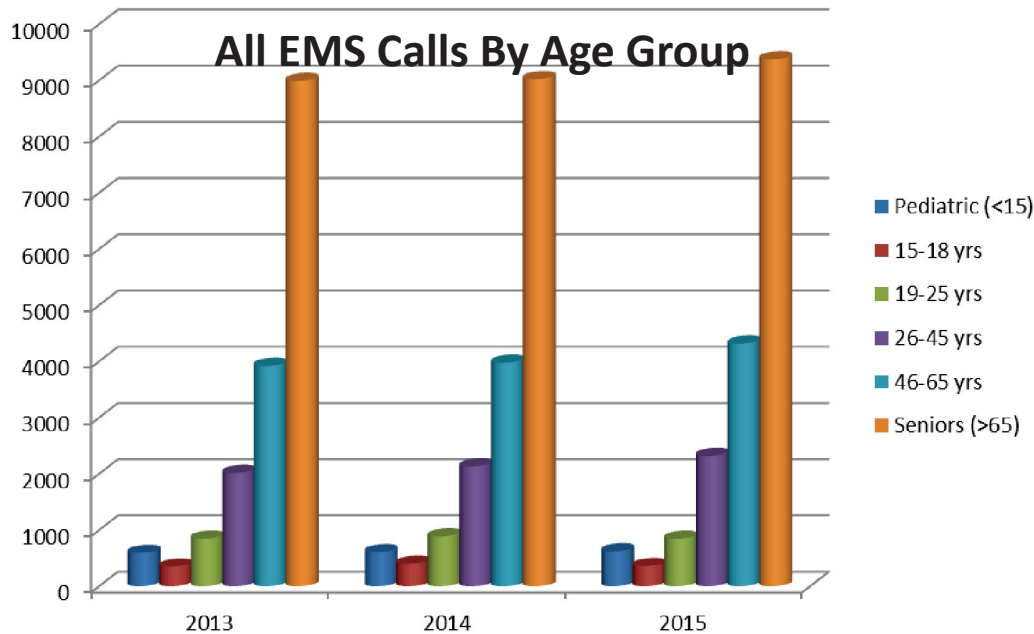
Staff Assignments

AED - Public Access/Layperson/Public Safety
Advanced Protocol Review (APR)
Base Hospital Information
Clinical Advisory Committee Liaison
Continuing Education Provider Approval
Controlled Substance Program
Emergency Medical Care Committee
Emergency Medical Dispatch
EMS Data Analyst
EMT Certification/Recertification
EMT/Paramedic Training Program Approval
Investigations/Probations/Case Management
Field Training Officers Liaison
Hands-Only CPR
MICN Authorization/Reauthorization
MICN Initial/Refresher Course
Multi-Casualty Incident (MCI) Planning
Medical Health Area Operations Coordinator
Operations Sub-Committee Liaison
SLO County EMS Mobile App
Paramedic Accreditation
Provider Contract Compliance
Quality Improvement
Specialty Care Systems (STEMI, Trauma)
Training Equipment
Vehicle and Trailers
Website



EMS RESULTS: SYSTEM USE

San Luis Obispo Emergency Medical Services System Report 2015



Although Seniors make up 14.5% of the population, they account for roughly 50% of all EMS calls in our county:

2014 Population Census:

Under-5 yrs: 6.2%
Under -18 yrs: 23.1%
19-64 yrs: 56.2%
65+ yrs: 14.5%

Census.gov: San Luis Obispo County 2014 Population Statistics

EMS Calls

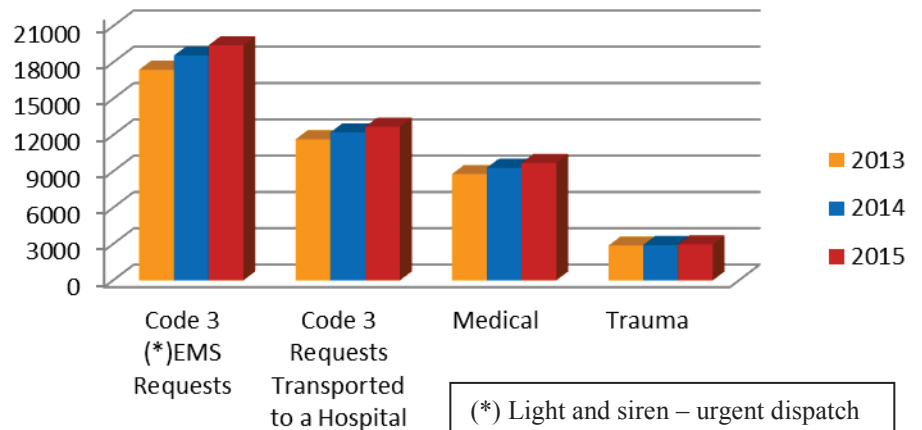
2013-2015

Majority of EMS calls are the result of medical complaints such as:

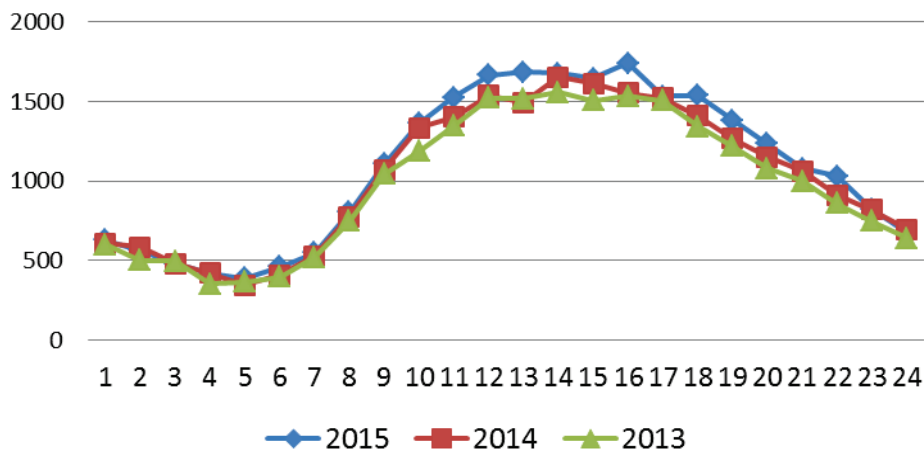
Chest Pain
Respiratory Distress
Altered Level of Consciousness
~~~~~

Trauma accounts for 23% of all calls.

## EMS Call Volume 2013-2015



## EMS Calls By Hour of Day



While the total EMS call volume in SLO County is increasing each year (see above graph), call volume average by hour has been consistent, increasing from the early morning to peak at 2-4 PM, then decreasing for the remainder of the day.





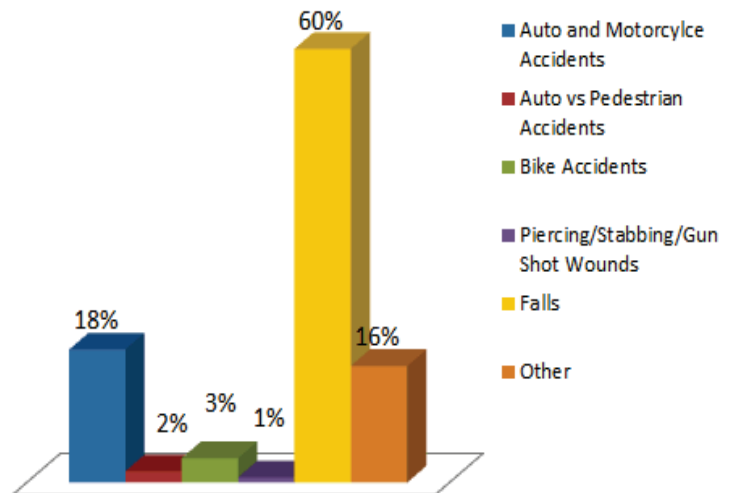
# EMS RESULTS: TRAUMA

San Luis Obispo Emergency Medical Services System Report 2015

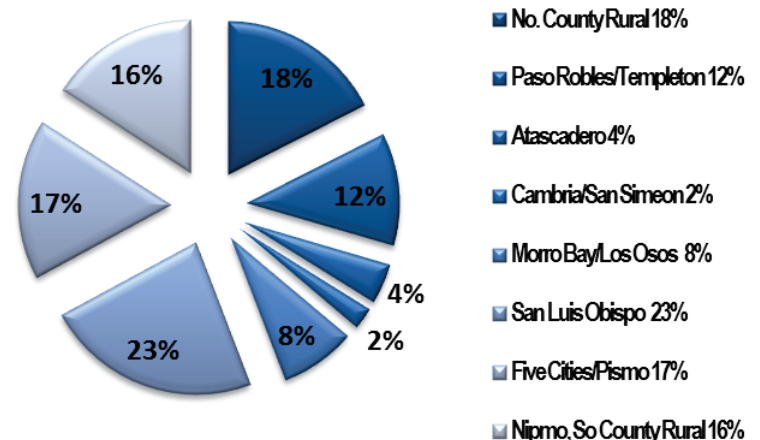
- The American College of Surgeons Committee on Trauma sets trauma triage criteria to identify the most critically injured and those at great risk for serious injury. These patients are then taken to a designated trauma center for care.
- In 2015 San Luis Obispo responded to nearly 3000 trauma patients, with 20% of those meeting the trauma triage criteria. Those meeting the most seriously injured criteria are transported to Sierra Vista Regional Medical Center, the county designated trauma center, or to Marian Medical Center if in the southern part of the county, a Santa Barbara County designated trauma center.
- Trauma events occur throughout the county with the highest concentration on the highway corridors, urban areas, and public recreational areas.

## Origin of EMS Trauma Calls Taken to the Trauma Center

### Causes of Trauma



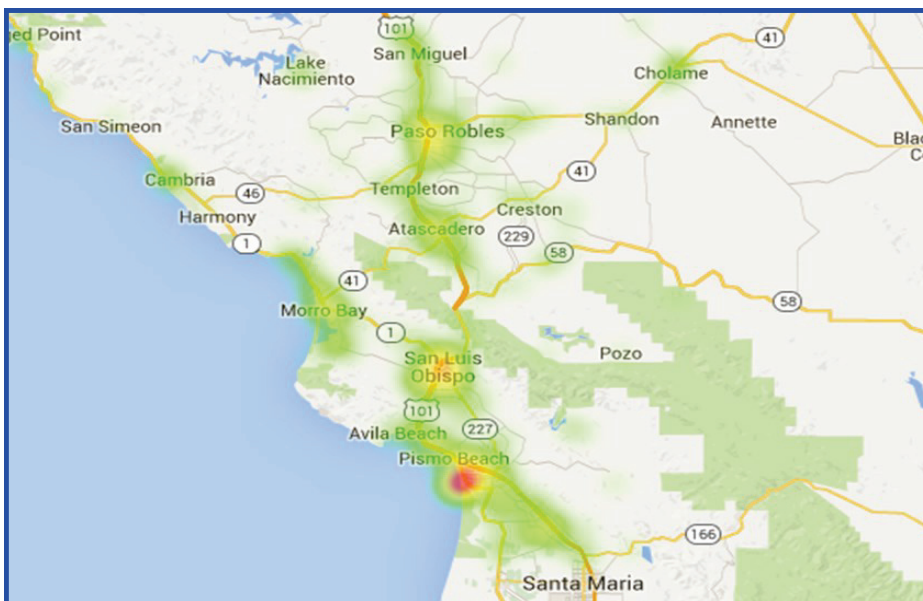
### Origin of Trauma Calls



### Trauma "Hot Spots" 2015

This Heat Map shows the concentration of EMS responses to patients meeting trauma triage criteria.

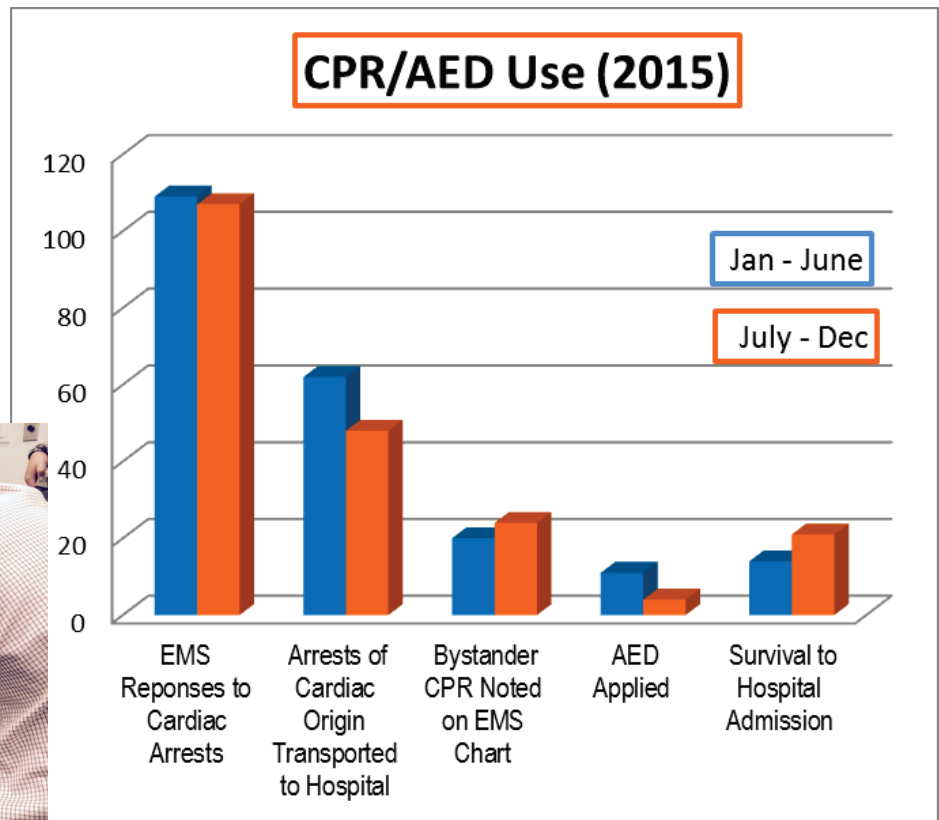
As expected, urban centers, highway corridors and various public recreational areas have a higher incidence.





# EMS RESULTS: CARDIAC ARREST

San Luis Obispo Emergency Medical Services System Report 2015



## Sudden Cardiac Arrest: Making Life-Saving Changes

- Cardiovascular disease continues to be the single greatest cause of death in the United States, with nearly 400,000 sudden cardiac arrests each year.
- Nearly 90% of arrests occur outside of the hospital requiring a 9-1-1 response. We know **improved outcomes are associated with early bystander activation of the 9-1-1 system and Hands-Only CPR.**
- In 2015 San Luis EMS responded to **216 cardiac arrests, transporting 110** to a hospital. Approximately 10% (22) of all cardiac arrest patients survived to hospital admission with 12 patients surviving to hospital discharge.
- In August of 2015 a new program, **High Performance CPR (HPCPR)**, was introduced. HPCPR has a three-pronged approach: public education to spread awareness and encourage citizen use of **Hands-Only CPR**; train EMS dispatchers to proactively assist with CPR instruction; train all county-wide EMS responders in improved, high quality CPR and resuscitation.
- The chart above notes **an increase in bystander CPR and survival to hospital admission** in the initial six months after the introduction of **HPCPR training** and a public **Hands-Only CPR** campaign. The numbers are small at this early stage, but the EMS Agency anticipates increasing the survival rate over time throughout the county.



# EMS: DATA DRIVEN INITIATIVES

San Luis Obispo Emergency Medical Services System Report 2015

The goal is to not let data remain static in a file. EMS staff work together with many partners throughout the community to identify and respond to trends in order to make San Luis County a safer place to live, work, and visit.

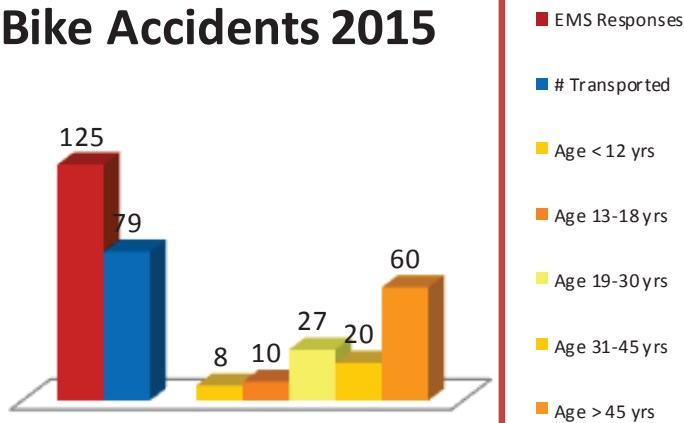
Highlighted below are a few of the data analyses that have led to policy direction and specific initiatives. From **fall prevention** efforts, to supporting the **Opioid Coalition**, to raising awareness on **bike safety**, and a **community-wide CPR** campaign, staff and our partners have harnessed the data and made efforts to address community needs.

## THE TRIBUNE

WHY SLO COUNTY HAS SO MANY BICYCLE ACCIDENTS

August 7, 2015

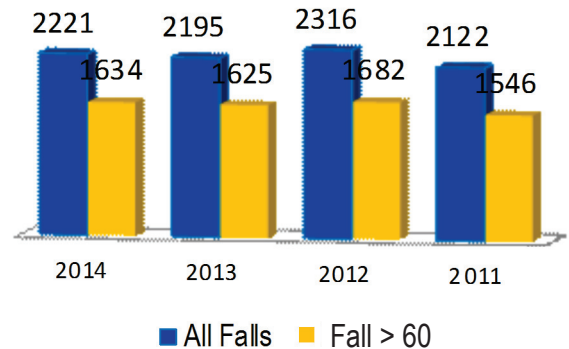
### Bike Accidents 2015



The San Luis Obispo County Health Promotion Division in partnership with the EMS Agency used data to secure public education grants including:

- National Office of Traffic Safety -Bike Safety
- National Office of Traffic Safety -Infant Car Seat Program
- Area Agency on Aging -Fall prevention classes

### Falls 2011-2014

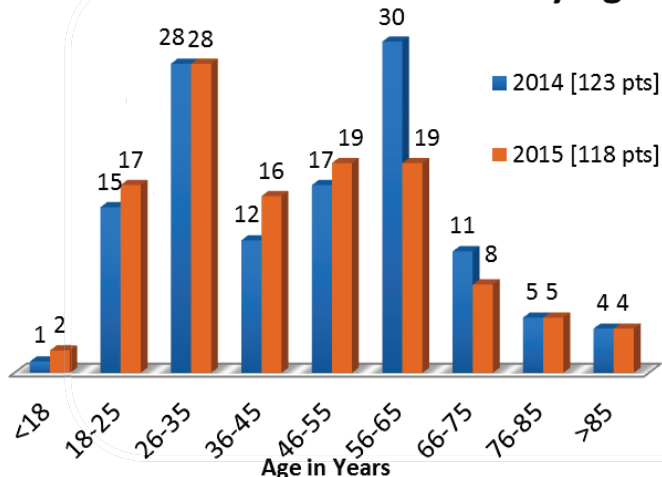


2011-2013

55% of all unintentional injury deaths for adults > 65 years were due to falls

Source: CDC

### EMS Narcan Administration by Age



California Health Care Foundation

HEALTH CARE THAT WORKS FOR ALL CALIFORNIANS

Regional Opioid Safety Coalition

#### GOALS:

- Support safe prescribing practices
- Expand access to medical-assisted treatment
- Increase naloxone access



# EMS: DATA DRIVEN INITIATIVES

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## Community CPR Campaign 2016

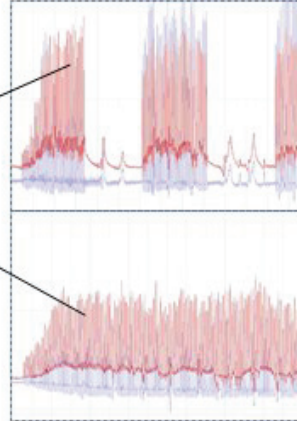
By raising awareness of bystanders' role in the cardiac arrest chain of survival, the EMS Agency is increasing survival statistics. Public bystanders have two important steps to take if they see someone collapse: (1) to call 911 and (2) begin *Hands-Only CPR*, pressing hard and fast into the center of the unconscious person's chest.

By performing continuous *Hands-Only CPR* until paramedics arrive - usually within 5 minutes- the blood circulation to the patients vital organs can be improved (see image). This, combined with new training for professionals in *High Performance CPR*, based on the same concept of uninterrupted high quality CPR, is improving sudden cardiac arrest survival rates.

The EMS Agency's campaign, in conjunction with *Save A Life SLO* and our other EMS partners, is a multi-platform approach to raise public awareness of the ease of *Hands-Only CPR*, and the necessity of calling 911 to activate the emergency system. Through education of our community in changes to traditional response, including paramedics spending more time on scene in order to stabilize the patient and bring the hospital to them before transport, we hope to improve care and save more lives in San Luis Obispo County.

Head and Heart Perfusion Pressure is disrupted during breaths

Head and Heart Perfusion Pressure during continuous compressions



Ewy GA, Zuercher, M. Hilwig, R.W. et al Circulation 2007;116:2525

### Campaign Goals:

- Increase public awareness and use of *Hands-Only CPR*
- Increase public awareness of paramedic and EMT response role, including their use of *High Performance CPR* to bring quality CPR to the patient before transportation.
- Increase awareness of the Chain of Survival, in which both bystanders and responders play a role to ensure uninterrupted chest compressions.

CONTACT US FOR A  
TRAINING!

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*"Working to assure that our county's residents and visitors receive optimal prehospital care on a daily basis and protection during public health emergencies."*



#SaveALifeSLO

SaveALifeSLO.org

